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JCS91 U.S. PTO

## PATENT APPLICATION TRANSMITTAL LETTER

(Small Entity)

Docket No.

70272-0057

## TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

Robin Anthony COOPER; Nigel BARKER; Roy KNOX

For: METHOD OF MAKING A COSMETIC COVER

Enclosed are:

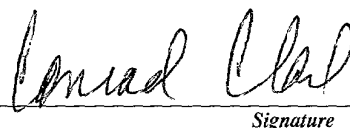
- ☐ Certificate of Mailing with Express Mail Mailing Label No.
- ☒ Two (2) sheets of drawings.
- ☐ A certified copy of a application.
- ☒ Declaration ☐ Signed. ☒ Unsigned.
- ☒ Power of Attorney
- ☐ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒ unexecuted Verified Statement(s) to Establish Small Entity Status Under 37 C.F.R. 1.9 and 1.27.
- ☒ Other: Specification, Claims & Abstract = 10 pgs

## CLAIMS AS FILED

| For  | #Filed | #Allowed | #Extra | Rate      | Fee      |
|--|--------|----------|--------|-----------|----------|
| Total Claims   | 15     | - 20 =   | 0      | x \$9.00  | \$0.00   |
| Indep. Claims  | 4      | - 3 =    | 1      | x \$40.00 | \$40.00  |
| Multiple Dependent Claims (check if applicable) <input type="checkbox"/> |        |          |        |           | \$0.00   |
| BASIC FEE  |        |          |        |           | \$355.00 |
| TOTAL FILING FEE   |        |          |        |           | \$395.00 |

- ☒ A check in the amount of \$395.00 to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. 50-1088 as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of as filing fee.
- ☒ Credit any overpayment.
- ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: October 13, 2000



Signature

Conrad J. Clark, Reg. No. 30,340  
Clark & Brody  
1750 K Street, NW, Suite 600  
Washington, DC 20006  
Telephone: 202-835-1754  
Facsimile: 202-835-1755

cc:

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) AND 1.27 (c)) - SMALL BUSINESS CONCERN**

Docket No.  
70272-0057

Serial No.

Filing Date  
October 13, 2000

Patent No.

Issue Date

Applicant/ **Cooper, et al.**  
Patentee:
Invention: **Method Of Making A Cosmetic Cover**

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:
- ☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: **RSLSteeper Ltd.**ADDRESS OF CONCERN: **51 Riverside, Medway City Estate, Rochester, Kent ME2 4DP, England**

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 37 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above identified invention described in:

- ☒ the specification filed herewith with title as listed above.
- ☐ the application identified above.
- ☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization exists.  
☐ each such person, concern or organization is listed below.

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: \_\_\_\_\_

TITLE OF PERSON SIGNING \_\_\_\_\_

OTHER THAN OWNER: \_\_\_\_\_

ADDRESS OF PERSON SIGNING: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

BE IT KNOWN THAT WE, ROBIN ANTHONY COOPER, a British subject, of 18 Oak Hill, Epsom, Surrey KT18 7BT, England, NIGEL BARKER, a British subject, of 7 Wynlea Close, Crawley Down, West Sussex RH10 4HP, England, and ROY KNOX, a British subject, of 140 Harrogate Road, Yeadon, West Yorkshire LS19 6AH, England, have invented a certain new and useful

of which the following is a specification:

A method of making a cosmetic cover comprising coating the interior of a mould with successive layers of one or more curable materials. An outer such layer is provided with means to create a non-homogeneous colour effect in that layer, and at least an inner such layer is provided with means to create a background colour, for the said outer layer, in the said inner layer.

5

**A method of making a cosmetic cover**

The present invention relates to a method of making a cosmetic cover comprising coating the interior of a mould with successive layers of one or more curable materials.

Such a method has already been proposed in which each layer contains different pigments at different loadings to produce the desired overall colouring for the cover.

One disadvantage of a cover made by such a method is that the colouring is not very realistic.

It is an aim of the present invention to obviate this disadvantage.

Accordingly, the present invention is directed to a method as set out in the opening paragraph of the present specification, in which at least an outer such layer is provided with means to create a non-homogeneous colour effect in that layer, and at least an inner such layer is provided with means to create a background colour, for the said outer layer, in the said inner layer.

It will be appreciated here that the outermost layer of the cover is the layer which is first-formed in the moulding.

The total number of layers with which the interior of the mould is coated may be three or more.

The said one or more curable materials may comprise a liquid monomer. Alternatively, or in addition, the said one or more materials may comprise a semi-liquid

The said means to create a non-homogeneous colour effect may be in the form of coloured lengths of fibres. Alternatively, they may comprise a variation in the thixotropy of the said one or more curable materials.

Alternatively, the means to create a non-homogeneous colour effect may comprise dye-containing capsules having a form which will allow the passage of dye material within them into the layer during or after the curing process. Thus, the passing of the dye into the layer from the capsules may be caused by the curing process itself, or alternatively for example upon the exposure of the layer to sunlight.

Alternatively, such dyes could be introduced as solids, such as powders or crystals, or liquids directly into the layer.

The dyes used might be sensitive to light, such as for example polychromatic dyes.

The present invention extends to a method of making a coloured layer of material comprising introducing a dyestuff in a curable or cured layer to provide a non-homogeneous coloured layer.

The present invention also extends to a method of making a coloured layer of material comprising varying the thixotropy of one or more curable materials from which such a layer is made, thereby to produce a non-homogeneous colour effect in the layer.

An example of a method of making a cosmetic cover in

accordance with the present invention is illustrated in the accompanying diagrammatic drawings, in which:

Figure 1 shows an elevational perspective side view of apparatus for effecting the method; and

5 Figure 2 shows an axial sectional view of a product of that method.

Figure 1 shows an elongate mould 10 with a closed generally hemispherical base 12 held on an axis of a rotary drum 14 by means of foam packing 16 between the  
10 walls of the drum 14 and the mould 10. The mould 10 has an outer open end 18 projecting beyond front end faces 20 of the foam packing 16. To assist in the insertion of the mould 10 in the foam packing 16 within the drum 14, the drum is in two halves, which are hinged together and  
15 which are held in a closed position by means of toggle clamps 22.

Around the periphery of the drum 14 at its forward end, there is a toothed drive ring 24 engaged by a toothed wheel 26 of a drive roller 28. The drum 14 is  
20 also supported by an idle roller 30 spaced apart horizontally from the drive roller 28.

A probe 32 extends axially within the mould 10 to feed warm air into the interior thereof, which enters the probe 32 from a tube 34 connected to a source of warm air  
25 (not shown).

When the apparatus is used, the mould 10 outside the drum 14 is filled with a curable silicone fluid. The mould 10 is then emptied, the viscous nature of the



silicone fluid being such as to leave a coating on the interior of the mould 10.

The latter is then placed in the foam packing 16 of the drum 14 as shown in Figure 1 and the drum 14 is  
5 rotated by the drive roller 28 about the axis of the drum, as shown by the arrow a in Figure 1. Simultaneously, hot air is fed through the hose 34 into the probe 32, from which it exits into the interior of the mould 10. Eventually, hot air along with the solvent  
10 vapour of the silicone fluid escapes through the open end 18 of the mould 10. During this process strongly coloured short-length fibres are fed into the interior of the mould 10. This may be accomplished through the same probe 32. It produces a non-homogeneous colour effect in  
15 the layer thus formed. Eventually, the silicone gels to form a first layer on the interior of the mould 10.

The mould 10 is now removed from the drum 14, and is once again filled with silicone fluid, which again is then tipped out from the mould 10. This further amount  
20 of fluid silicone is dyed uniformly to provide a background colour for the layer already created.

The second layer of silicone is gelled in the same way as the first, by placing the mould in the drum 14, rotating the latter and simultaneously passing hot air  
25 into the interior of the drum 14. The resulting cured silicone layers are then removed from the mould 10. They constitute a cover as shown in Figure 2 having an outer layer 40 and an inner layer 42. The outer layer has a

non-homogeneous colour effect created by the presence of the non-uniformly distributed fibres 44. The cover 36 also has an inner layer 42 providing a background colour for the outer layer 40. This cover 36 has a realistic skin-like appearance and is therefore particularly suitable for a prosthesis.

In an alternative method of creating such a cover, which will not now be described with reference to any particular Figures in the drawings, a mould like the mould 10 is heated in an oven. It is then removed from the oven and vinyl chloride monomer is poured into the mould. The mould is then emptied and the mould with a layer of the monomer on its interior, is replaced in the oven.

Either just before or during the heating of this layer of monomer, brightly coloured short-length fibres are scattered on to this layer so as to produce a non-homogeneous colour effect in that layer.

Once the layer of monomer has polymerised to become polyvinyl chloride, the mould is removed from the oven and a further amount of vinyl chloride monomer is poured into the mould to fill the latter. The liquid monomer is again tipped out so that the second layer of the monomer is left on the polymerised layer. This second layer is uniformly covered with a dye to create a background cover for the first layer. The mould is then re-inserted into the oven and the second layer is polymerised. Once the curing process is complete, the cover is removed from the

mould and, although it is made of a different substance, looks substantially the same as the cover shown in Figure 2.

Numerous variations and modifications to the illustrated method may occur to the reader without taking the resulting method outside the scope of the present invention. For example, there may be three or more layers altogether in the finished cover, providing there is at least one outer layer having a non-homogeneous colour effect, and at least one inner layer providing a background colour. Further printing may be applied on the exterior of the cover 36 shown in Figure 2 to enhance the overall colouring effect even further. Alternatively, further colouring could be injected into the surface of the cover 36 to this end.

The fluid silicone or vinyl chloride monomer and resulting cured material in the layer 40 itself has no pigment loading, or a very low pigment loading, the final colouring effect in the layer 40 being effected substantially solely by the strongly coloured short fibres 44 in these examples.

Materials other than polyvinyl chloride may be used to create the layers. Silicone or polyurethane could be used.

25       Curing of the monomer may be by chemical means  
rather than by heating.

The mould 10 may be of a different shape, and may comprise more than one part.

**We claim:**

1. A method of making a cosmetic cover comprising coating the interior of a mould with successive layers of one or more curable materials, wherein at least an outer  
5 such layer is provided with means to create a non-homogeneous colour effect in that layer, and at least an inner such layer is provided with means to create a background colour, for the said outer layer, in the said inner layer.
- 10 2. A method of making a cosmetic cover according to claim 1, wherein the total number of layers with which the interior of the mould is coated is three or more.
3. A method of making a cosmetic cover according to claim 1, wherein the said one or more curable materials  
15 comprise a liquid monomer.
4. A method of making a cosmetic cover according to claim 1, wherein the said one or more materials comprise a semi-liquid monomer.
5. A method of making a cosmetic cover according to  
20 claim 1, wherein the said means to create a non-homogeneous colour effect are in the form of coloured lengths of fibres.
6. A method of making a cosmetic cover according to claim 1, wherein the said means to create a non-  
25 homogeneous colour effect comprise a variation in the thixotropy of the said one or more curable materials.
7. A method of making a cosmetic cover according to claim 1, wherein the means to create a non-homogeneous'

colour effect comprise dye-containing capsules having a form which will allow the passage of dye material within them into the layer during or after the curing process.

8. A method of making a cosmetic cover according to  
5 claim 7, wherein the passing of the dye into the layer from the capsules is caused by the curing process itself.

9. A method of making a cosmetic cover according to claim 7, wherein the passing of the dye into the layer from the capsules occurs upon the exposure of the layer  
10 to sunlight.

10. A method of making a cosmetic cover according to claim 1, wherein the said means to create a non-homogeneous colour effect comprise a dye introduced directly into the layer.

11. A method of making a cosmetic cover according to  
15 claim 10, wherein the dye used is sensitive to light.

12. A method of making a cosmetic cover according to claim 11, wherein the dye used is a polychromatic dye.

13. A method of making a coloured layer of material  
20 comprising introducing a dyestuff in a curable layer to provide a non-homogeneous coloured layer.

14. A method of making a coloured layer of material comprising introducing a dyestuff in a cured layer to provide a non-homogeneous coloured layer.

15. A method of making a coloured layer of material  
25 comprising varying the thixotropy of at least one curable material from which such a layer is made, thereby to produce a non-homogeneous colour effect in the layer.

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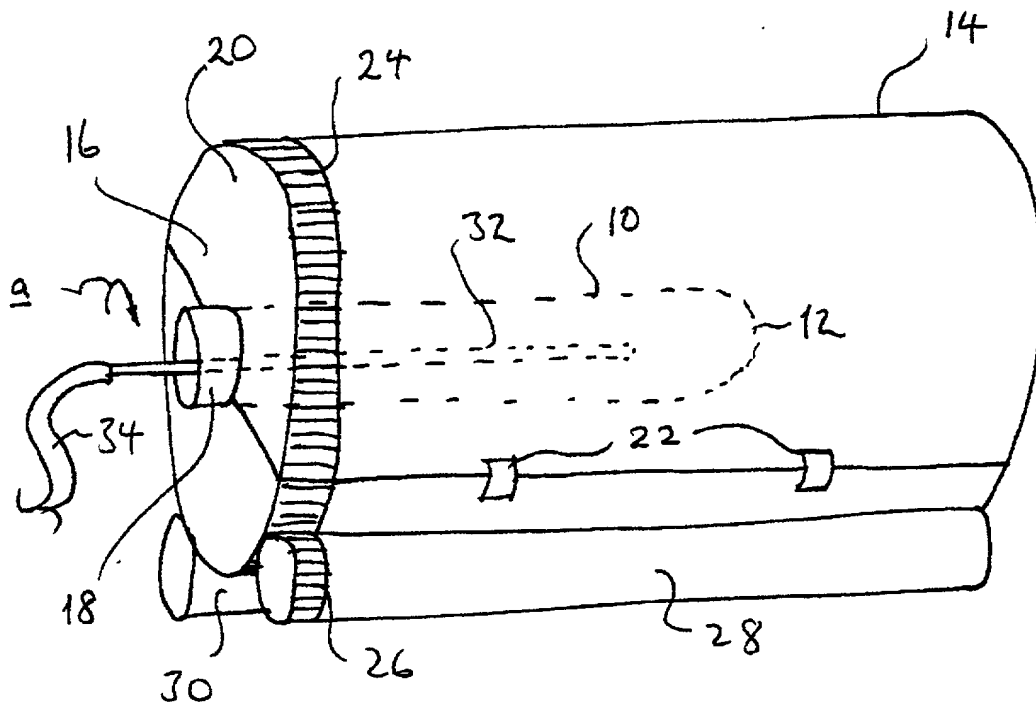


Fig. 1

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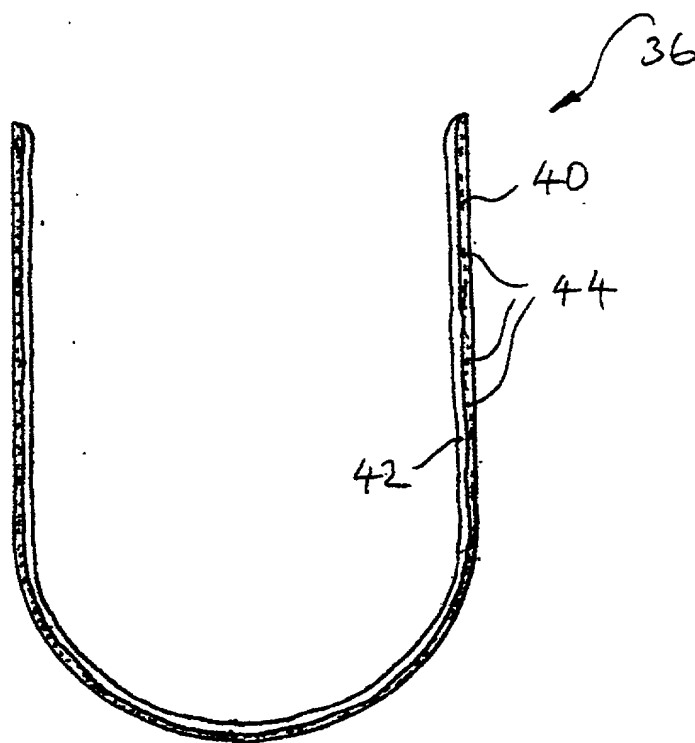


Fig. 2

**DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I declare that:

My residence, post office address, and citizenship are as stated below next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled

**METHOD OF MAKING A COSMETIC COVER**

☒ the specification of which is attached hereto.  
☐ was filed on \_\_\_\_\_ as patent application Serial No. \_\_\_\_\_, and (if applicable) was amended on \_\_\_\_\_

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information of which I am aware and which is material to the examination of the patent application in accordance with 37 CFR §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designates at least one country other than the United States, listed below and have also identified below, by checking the space, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is not claimed.

**Prior Foreign Application(s)**

| Number    | Country        | Day/Month/Year Filed | Priority Not Claimed |
|-----------|----------------|----------------------|----------------------|
| 9924384.2 | United Kingdom | 15 October 1999      |                      |
|           |                |                      |                      |

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

Application Serial Number

Filing Date

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose information known to me which is material to the patentability as defined in 37 CFR §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

Application Serial Number

Filing Date

Status (patented, pending, abandoned)

Each undersigned applicant hereby appoints **CONRAD J. CLARK (Registration No. 30,340)** and **CHRISTOPHER W. BRODY (Registration No. 33,613)**, as his attorneys with full power of substitution to prosecute the subject application and to transact all business in the Patent and Trademark Office connected therewith.

Send Correspondence to: **CLARK & BRODY, 1750 K Street, NW, Suite 600, Washington, DC 20006; Telephone: 202-835-1111; Facsimile: 202-835-1755.**

I hereby declare that all statements made herein of my own knowledge are true and that all statement made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor: **Robin Anthony Cooper**

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: **Surrey, England**

Citizenship: **British**

Post Office Address: **18 Oak Hill, Epsom, Surrey KT18 7BT, England**

Full name of second joint inventor, if any: **Nigel Barker**

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: **West Sussex, England**

Citizenship: **British**

Post Office Address: **7 Wynlea Close, Crawley Down, West Sussex RH10 4HP, England**

Full name of third joint inventor, if any: **Roy Knox**

Inventor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Residence: **West Yorkshire, England**

Citizenship: **British**

Post Office Address: **140 Harrogate Road, Yeadon, West Yorkshire LS19 6AH, England**

\_\_\_\_ Fourth and subsequent joint inventors are listed on second sheet